

WHAT IS CLAIMED IS:

(VACUUM)

1. A process apparatus including an airtight process vessel, an exhaust system for exhausting gas from the process vessel, and a baffle plate for partitioning the process vessel into a process chamber for processing an object and an exhaust passage communicating with the exhaust system,

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wherein the baffle plate has a plurality of slits through which the process chamber and the exhaust passage communicate with each other;

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each slit has a tapered surface on an inner surface toward the process chamber, [the tapered surface being formed to not less than 1/4 of a depth of the slit; and]

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[ an angle  $\theta$  between the tapered surface and a perpendicular crossing an open end of the slit at right angles falls within a range from  $5^\circ$  to  $30^\circ$  ( $5^\circ \leq \theta \leq 30^\circ$  ). ]

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2. The process apparatus according to claim 1, wherein the tapered surface is formed to not less than 1/2 of the depth of the slit.

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3. The process apparatus according to claim 2, wherein the baffle plate is shaped like a ring, and the plurality of slits are arranged radially on an entire circumferential surface of the baffle plate.

4. The process apparatus according to claim 2, wherein each slit extends in a radial direction of the

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baffle plate, and the tapered surface extends in the radial direction of the baffle plate on either side of the slit and inclines from an opening rim of the slit, which faces the process chamber, toward the exhaust  
5 passage in which direction the opening of the slit is narrowed.

5. A process apparatus including an airtight process vessel, an exhaust system for exhausting gas from the process vessel, and a baffle plate for  
10 *Sub 37* partitioning the process vessel into a process chamber for processing an object and an exhaust passage communicating with the exhaust system,

*Sub 37* wherein the baffle plate has a plurality of slits through which the process chamber and the exhaust  
15 passage communicate with each other;

each slit has a tapered surface on an inner surface toward the process chamber, the tapered surface being formed to not less than 1/4 of a depth of the slit; and

20 each slit has an enlarged opening facing the exhaust passage, the enlarged opening extending from an opening rim of the slit, which faces the exhaust passage, toward the process chamber and having an inside diameter which is larger than a minimum inside  
25 diameter of a process-chamber-side portion of the slit on which the tapered surface is formed.

6. The process apparatus according to claim 5,

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wherein the tapered surface and the enlarged opening  
are each formed to  $1/4$  to  $1/2$  of the depth of the slit.

7. The process apparatus according to claim 5,  
wherein the baffle plate is shaped like a ring, and the  
plurality of slits are arranged radially on an entire  
circumferential surface of the baffle plate.

8. The process apparatus according to claim 5,  
wherein each slit extends in a radial direction of the  
baffle plate, and the tapered surface extends in the  
radial direction of the baffle plate on either side of  
the slit and inclines from an opening rim of the slit,  
which faces the process chamber, toward the exhaust  
passage in which direction the opening of the slit is  
narrowed.

9. The process apparatus according to claim 8,  
wherein the enlarged opening and the process-chamber-  
side portion of the slit where the tapered surface is  
formed communicate with each other through a passage  
having a same section and size as those of a region  
surrounded by an inner rim of the tapered surface.

10. The process apparatus according to claim 5,  
wherein an angle  $\theta$  between the tapered surface and  
a perpendicular crossing an open end of the slit at  
right angles falls within a range from  $30^\circ$  to  $60^\circ$   
( $30^\circ \leq \theta \leq 60^\circ$ ).

11. The process apparatus according to claim 5,  
wherein a width  $W_1$  of an opening of the slit, which

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faces the process chamber, and a width  $W_2$  of an opening of the slit, which faces the exhaust passage, are set so as to satisfy a condition of  $1 \leq W_2/W_1 \leq 1.4$ .

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